

# MONITORING OF RUSSIA'S ECONOMIC OUTLOOK:

## TRENDS AND CHALLENGES OF SOCIO-ECONOMIC DEVELOPMENT

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THE RUSSIAN PRESIDENTIAL ACADEMY  
OF NATIONAL ECONOMY  
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## MAIN TRENDS AND CONCLUSIONS

Having assessed the preliminary results of the Russian Federation's foreign trade in 2019 (the first ten months of past year compared to the same period of 2018), our experts highlight a **8.1% decline in the export of fuel and energy resources**, to \$ 217.4bn. This drop in revenues resulted from a considerable shrinkage in export prices for the entire range of such goods (crude oil, petroleum products, natural gas, and hard coal). The export of other goods declined less considerably – by 1.9%, to \$ 128.0bn. At the same time, **the import of goods remained practically unchanged relative to the previous period (100.8%)**, at \$ 198.1bn.

The geographical structure of Russia's foreign trade turnover was characterized by a continuation of previously established trends – **a decline in the share of the EU countries and an increase in the share of China**.

According to our experts' analysis of the situation on the global crude oil market, the experience of implementing the OPEC+ deal provides compelling evidence that it is indeed possible to exert a positive impact on the price situation, and this fact has been confirmed **by the relative stabilization of oil prices in the \$ 60 to \$ 70 per barrel range**. The agreement to extend the oil production cut deal until March 2020 serves the same purpose as its predecessor – that of coping with the ongoing increase in US crude oil production, which grew 11.5% in 2019, and is expected to gain another 7.6% over the course of the current year. It is also expected that crude oil production will increase in Brazil, Canada, and Norway. In this context, **the future behavior of oil prices will be determined by the growth rates of the global economy and by the possibility of extending the OPEC+ deal beyond March 2020**.

A recent business survey of industrial enterprises carried out by Gaidar Institute researchers revealed the prevailing feelings across Russia's industry as of December 2019. The decline in demand and the ongoing rise in the excessive stocks of finished goods was forcing the surveyed producers to start cutting back their production, **although their future demand forecasts remained relatively optimistic**. Moreover, low demand made it necessary for the enterprises to abstain from increasing their selling prices, or even to start reducing them.

In Q4 2019, 60% of the surveyed enterprises (the lowest percentage registered during the last eight quarters) considered the volume of their investments to be 'normal'. At the same time, the percentage of enterprises hesitant to intensify their investment activity before the macroeconomic situation becomes more clear and predictable dropped significantly (from 58% to 45%). It is also significant that the issue of access to finance was not considered by the surveyed enterprises to be one of the most important issues, as far as their investment plans were concerned. In 2019, 67% of enterprises considered their access to finance to be 'normal'. Just 3% of enterprises identified lack of finance as an obstacle to increasing their output (in this respect, high interest rates on loans were mentioned by 6% of enterprises). In 2019, this factor was in last place among the 17 obstacles to industrial production growth identified by the surveyed enterprises.

In the course of analyzing a number of regional count data models from the point of view of the long-term effects of infrastructure projects, RANEPА researchers have developed **a model for RF municipalities, and applied it to the planned Moscow-Kazan highway construction project**. Thus they were able to assess the social and economic impacts of its construction, including the resulting changes in population size and wage rates (the authors proceeded from the premise that the population mobility would be high and unimpeded).

According to this model, the biggest growth in population will be experienced by the towns of Murom and Arzamas, while the northern regions of Nizhny Novgorod Oblast and the republics of Mari El and Mordovia will become the sources of migration. The positive impact of the highway will be felt not only by the areas directly adjacent to its route, but also by the vast territories to the east of Kazan, such as eastern Tatarstan, the southern regions of Kirov Oblast, and Udmurtia. 

# 1. RUSSIA'S FOREIGN TRADE IN 2019: PRELIMINARY RESULTS

A. Knobel, A. Firanchuk

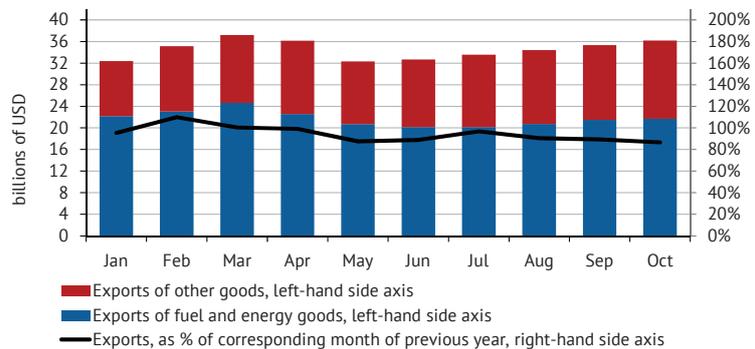
Over the course of the first ten months of 2019, Russia's exports of fuel and energy resources in money terms dropped relative to the same period of the previous year by 8.1%, to \$ 217.4bn (or 77% of the pre-crisis level registered in 2013). The value of other exports declined to \$ 128.0bn (-1.9%), thus returning to its pre-crisis level (105%). The drop in the value of Russia's exports of fuel and energy resources, metals, chemical products, and timber was caused by a considerable deterioration in pricing which took place against the background of relatively stable export volumes. The export of high-tech products (the commodity groups Machines and Equipment and Other Commodities) remained unchanged.

Over the course of the first ten months of 2019, the value of imports amounted to \$ 198.8bn, thus remaining at the level of the corresponding period of the previous year (100.8%). One of the factors behind the ruble's return to about 77% of the pre-crisis level registered in 2013 was the significant strengthening of the ruble.

## The behavior of exports and imports

Over the course of the first ten months of 2019, **export value** shrank relative to the same period of 2018 to \$ 345.4bn (or 94.1% of the 2017 level). Russia's exports of fuel and energy resources in money terms dropped by 8.1%, to \$ 217.4bn. The value of other imports amounted to \$ 128.0bn, thus remaining practically unchanged (-1.9%). The monthly dynamics of exports is shown in Fig. 1.

In January-October 2019, **Russia's imports in money terms** remained at the level of the corresponding period of the previous year (100.8%), amounting to \$ 198.1bn (Fig. 2). From July onwards, imports were slightly higher than in the corresponding months of the previous year. This phenomenon can be explained by the fact that in January-October 2019, Russia's GDP experienced weak growth,



\*preliminary results.

Fig. 1. The dynamics of Russia's exports in January-October 2019

Source: own calculations based on data released by the Federal Tax Service.



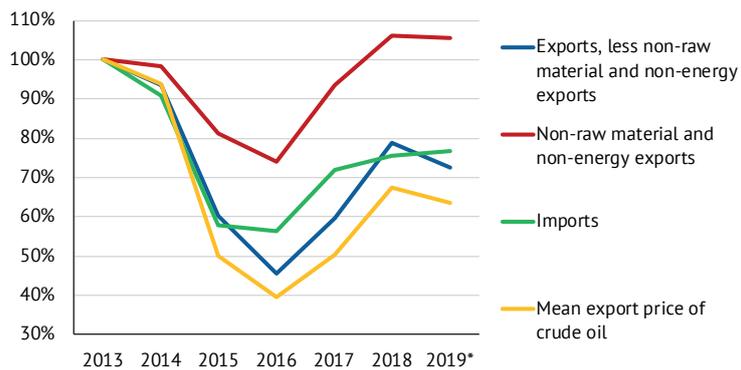
\*preliminary results.

Fig. 2. The dynamics of Russia's imports in January-October 2019

Source: own calculations based on data released by the Federal Tax Service.

while the ruble was continually strengthening throughout the whole year.

Having hit its record low 2016, and then experiencing a recovery growth in 2017–2018, **Russia's foreign trade volume stabilized with regard to its three major components**: the export of fuel and energy; the export of the other commodities; and imports (Fig. 3). Non-fuel and non-energy exports (excluding the classified commodity group) exceeded their pre-crisis levels for the second year in a row. However, the period of robust recovery growth had already come to an end. The exports of the other commodities, including fuel and energy resources, declined due to the drop in oil prices. Having entered a weak growth phase in 2017, the imports index had remained in the range of 72%–77% of its 2013 level for the third year in a row.



\*of the January-October 2013 level; the average crude oil price is based on data for H1 2019.

Fig. 3. The dynamics of imports, non-raw material and non-energy exports, and the other commodity exports in Russia in 2014–2019, as % relative to 2013

Source: own calculations based on data released by the Federal Tax Service and the Bank of Russia.

### Export prices

In January-October 2019, changes in export prices were, by and large, negative, mainly due to the drop in prices for energy- and energy-intensive commodities. Average export prices declined for most of the major commodity groups singled out by the Federal Tax Service, while a decline in the physical volume of exports was observed in approximately half of them.

Over the course of January-October 2019, the decline in the export of fuel and energy in money terms relative to the same period of the previous year amounted to 8%, which was caused by the drop in crude oil prices (-9%), petroleum product prices (-8%), natural gas prices (-12%), and hard coal prices (-6%). The physical volume of total crude oil and petroleum product net exports remained at the level of 340m tons, while crude oil exports increased by 9.5m tons. Natural gas exports via pipelines declined by 2%, while LNG exports increased by 68%. The combined effect expressed in terms of energy equivalent is compatible with an approximately 6% increase in natural gas exports.

The physical volume of grain exports (wheat and meslin) lost 28%, which was caused by its downward adjustment after the record high export volume of the previous year. The other commodity groups within the **Food Commodities and Agricultural Raw Materials** commodity statistics branch demonstrated a better dynamics, while the total volume of exports declined by a mere 2%.

**Chemical product exports** remained at their previous level (+00.2%). The rise in prices for chemical fertilizer exports and the increase in the physical volume thereof were compensated for by a reduction in prices for the other types of chemical products, including ammonia and rubber.

The export of products in the **Timber and Timber Products** commodity statistics branch shrank by 7% in money terms due to a decline in export prices for all major types of products (by 3%, to 27%). As far as the structure of timber

## 1. Russia's Foreign Trade in 2019: Preliminary Results

material exports is concerned (items 4,404 and 4,407), a continuation of growth was registered in the share of processed materials (from 76% to 81%), while the share of non-processed materials continued to decline. A similar reduction in the export of pulp and an increase in veneer and paper exports indicate that the export of products in this commodity statistics branch shifted to those commodities that involve a higher degree of processing.

Metals exports in money terms decreased by 12% due to a drop, within the 1–16% range, in export prices for most of metals and metal products (excepting nickel, the price of which increased by 3%), and an 11% reduction in the export of ferrous metals. The export of the other metals (copper, nickel and aluminum) grew within the 4–8% range.

The export of commodities belonging to two high-tech commodity statistics branches amounted, in money terms, to \$ 26.5bn (-0.3% on January-October 2018). The export of **Machines, Equipment and Transport Means** amounted to \$ 26.5bn (-4%), while the export of commodities belonging to the **Other Commodities** commodity group rose to \$ 5.8bn (+15%). There was a considerable rise in passenger car exports (by 31%) while their average price remained unchanged, and a fivefold drop in the export of LCD TVs (by 80%).

### Non-raw material exports

Over the course of the first ten months of 2019, the volume of non-raw material non-energy commodities (NRNECs), except for the classified commodity group, which mainly includes armaments, **remained at the level of January-October 2018** (Table 1).

The slight drop in the export price index (-2.6%), mainly caused by a decline in metals prices, was compensated for by the relatively small increase in commodity exports (+2.4%). In order to achieve the target export level, NRNECs in

Table 1

The dynamics of non-raw material non-energy exports (less classified commodity groups) in January-October 2019, by commodity statistics branch

Designation of commodity statistics branch	Export volume, billion USD		Change in value volume, %	Change in price, %	Change in physical volume, %
	January-October 2018	January-October 2019			
Food commodities and agricultural raw materials (less raw materials for textile production)	20.0	19.5	-2	+4	-6
Mineral products	0.1	0.1	-28	+7	-33
Chemical industry products, rubber	20.7	20.9	+1	-3	4
Hides and skins, furs, and leather & fur goods	0.2	0.1	-26	-5	-23
Timber, and paper products	10.0	9.4	-7	-10	4
Textiles, textile products and footwear	1.0	1.1	+11	-3	15
Gemstones, precious metals, and precious metal products	4.7	8.5	+81	+28	41
Metals and metal products	35.2	30.9	-12	-9	-3
Machines, equipment and transport means (less classified commodity groups)	16.0	17.0	+6	0	6
Other commodities	2.2	2.3	+5	-1	6
Total (less armaments and other classified commodity groups)	110.1	109.7	-0.3	-2.6	2.4

**Note:** The index was calculated on the basis of price per unit of production for the ten-digit commodity items included in a given commodity group, and standard filters were applied.

Source: own calculations based on data released by the Federal Tax Service.

physical terms should grow by 10% per annum<sup>1</sup>. Growth exceeded the target level only in the commodity statistics branches *Gemstones* (+41%) and *Textiles* (+15%). Growth was close to the target level in the commodity statistics branches *Machines and Equipment Less Classified Commodity Groups and Aircraft* (+6%) and *Other Commodities (Less Armaments)* (+6%). These statistics branches contain the most R&D-intensive high-tech commodities. However, when the classified commodity groups are taken into account (relevant data being available on the aggregate level), it becomes clear that the volume of exports included in these commodity statistics branches has not changed.

The two largest commodity statistics branches that account for one-half of the NRNECs registered zero growth: the export of commodities included in the commodity statistics branch *Metals and Metal Products* decreased by 3%, while the export of those included in the commodity statistics branch *Chemical Industry Products* grew by 4%.

### The geographic structure of commodity turnover

Over the course of the first ten months of 2019, the EU's share in Russia's trade turnover decreased by 1.2 p.p. (Table 2). At the same time, **the movement patterns of both imports from and exports to the EU were worse than those of the corresponding induces of trade with the other countries. The share of the APEC countries continued to grow** (+0.69 p.p.), primarily due to the stable growth of Russia's trade turnover with China. Imports from China rose by 2.2%, while exports there-to decreased by a mere 0.3% (while exports to the other countries dropped by 6.3%).

Table 2

### The geographic structure of Russia's foreign trade turnover in 2013–2019, by major trade partner

Region/country	Share in Russia's Trade Turnover, %							Change: Jan-Oct 2019 relative to Jan-Oct 2018, pp
	2013	2014	2015	2016	2017	2018	January -October 2019	
EU	49.6	48.1	44.8	42.8	42.1	42.7	41.9	-1.20
Ukraine	4.7	3.5	2.8	2.2	2.2	2.2	1.8	-0.38
Turkey	3.9	4.0	4.4	3.4	3.8	3.7	4.0	+0.23
Norway	0.3	0.3	0.3	0.3	0.2	0.2	0.6	+0.33
Switzerland	1.4	0.9	0.9	1.1	1.0	1.1	1.0	-0.05
APEC	24.8	26.9	28.1	29.9	30.4	31.0	32.0	+1.04
including:								
China	10.5	11.3	12.1	14.1	14.9	15.7	16.4	+0.69
USA	3.3	3.7	4.0	4.3	4.0	3.6	4.0	+0.32
Japan	3.9	3.9	4.1	3.4	3.1	3.1	3.1	+0.03
Korea	3.0	3.5	3.4	3.2	3.3	3.6	3.9	+0.31
Vietnam	0.5	0.5	0.7	0.8	0.9	0.9	0.8	-0.10
CIS	13.4	12.3	12.5	12.3	12.5	11.7	12.0	+0.10
of these, EAEU	7.4	7.2	7.9	8.5	8.8	8.1	8.5	+0.17
including:								
Armenia	0.2	0.2	0.2	0.3	0.3	0.3	0.3	+0.04
Belarus	4.1	4.1	4.5	5.1	5.2	4.9	5.0	-0.06
Kazakhstan	2.8	2.7	2.9	2.8	3.0	2.6	2.9	+0.19
Kyrgyz Republic	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.00

Source: own calculations based on data released by the Federal Tax Service.

<sup>1</sup> For a comparison of the dynamics of the prices and physical volume of non-raw material non-energy exports, see Knobel, A., Firanchuk, A. The Russian foreign trade in 2018: growth in non-oil and gas exports // Russian Economic Developments. 2019. No. 4. P. 11–18.

## 1. Russia's Foreign Trade in 2019: Preliminary Results

The share of the CIS countries increased by 0.10 pp, while that of the EAEU rose by 0.17 p.p. **Having been stable for three years in a row, Ukraine's share in Russia's trade turnover dropped sharply, to 1.8%.** Exports to Ukraine dwindled by a quarter, while exports thereto plummeted by 10%.

According to Eurostat data, over the course of the first three quarters of 2019, Russia's share in the EU's net imports (less intra-EU trade) amounted to 7.6% (-1.0 pp relative to January-October 2018); Russia's share in the EU's exports remained at the level of 4.4% (+0.1 pp); and its share in the EU's trade turnover amounted to 6.0%. This particular movement pattern of Russia's trade turnover was determined by the price situation in international energy markets<sup>1</sup>. 

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<sup>1</sup> See Knobel, A., Firanchuk, A. The Russian exports to the EU in 2017 // Russian Economic Developments. 2018. # 5. P. 12-17.

## 2. GLOBAL OIL MARKET: MAIN TRENDS

Yu. Bobylev

*Implementation of OPEC+ oil output cut agreements has led to stabilization of the world oil prices in the \$60–70 per barrel range. In H2 2019, the oil prices pushed closer to the lower bound of this range. In December 2019, members of OPEC+ decided to cut further the oil production from January 1, 2020. Amid growing oil production seen in the countries outside the cut deal such measure should prolong stabilizing effect on the oil market and prevent a significant price slump.*

The OPEC+ deal on joint efforts to cut oil production has become a notable factor significantly affecting global oil prices. The three-year implementation experience has demonstrated that such **agreements permit to reduce the risk of price crises and contribute maintaining crude oil prices at a certain level.**

The agreement signed in December 2018 envisaged production cut by 1.2 mb/day against the level seen in October 2018 was in effect throughout 2019. The agreement envisaged crude oil production cut by OPEC members by 800,000 barrels per day, and by non-OPEC countries to cut production by 400,000 barrels per day, with Russia taking on 228,000 barrels per day. At the same time, the output cut commitments did not apply to Iran, Venezuela and Libya where the oil production had already been reduced, plus Iran was facing the risk of reducing further its output in case tougher U.S. sanctions against purchases of Iranian crude (as a matter of fact this has occurred). To date against Q1 2018 crude oil extraction in Iran due to sanctions has decreased by 45%. Similar situation is being observed in Venezuela: crude oil production decreased by 54% over the period.

The implementation of OPEC+ agreements has led to **a notable rise of the world oil prices and their stabilization in the \$ 60 to \$ 70 per barrel** (Table 1, Figure 1). In 2018, the Russian crude oil price on the global market averaged \$ 69.8 per barrel, in 2019 according preliminary estimate it averaged \$ 63.6 per barrel (decrease by 8.9% against 2018). However, in H2 prices fell to \$ 61–62 per barrel and in certain months declined further (for example, in October 2019 The Russian oil price amounted to \$ 58.5 per barrel).

Table 1

	2014	2015	2016	2017	2018	2019 Q1	2019 Q2	2019 Q3	2019 Q4*	2019*
Brent crude price, Great Britain	98.9	52.4	44.0	54.4	71.1	63.3	68.3	61.9	61.7	63.8
Urals crude price, Russia	97.7	51.2	41.9	53.1	69.8	63.3	68.1	61.3	61.6	63.6

\* estimate.

Sources: OECD/IEA, Rosstat.

**The reason for certain slide of prices seen in 2019 was the slowdown of the world demand on crude oil and growth of production in countries which are outside the agreement, first of all the U.S.A.** (Table 2, Fig 2). Owing to technological

## 2. Global oil market: main trends

development and cost reduction the American oil industry has adapted to the lower price level arisen following the price crisis. In 2018, oil production in the U.S.A. hit 10,99 mn bbl per day (up 17.5% compared to 2017), and in 2019 – 12.25 mn bbl per day (up 11.5% compared to 2018).

At the same time, **as the most efficient shale oil deposits deplete the US crude oil extraction is expected to slow down.**

Decrease of investment activity in this sector is a sign of this process observed in 2019. Thus, the number of producing oil rigs in the country decreased from 880 in December 2018 to 708 in October 2019 or by 19.5% (Fig. 3).

However, in the near future, output growth in the United States will remain rather significant. **According to the US Energy Information Administration forecast, crude oil extraction in 2020 will hit 13.18 mb/day in the country and will gain another 7.6% compared to 2019. Output growth is being forecast in other countries, first of all, in Brazil, Norway, and Canada.**

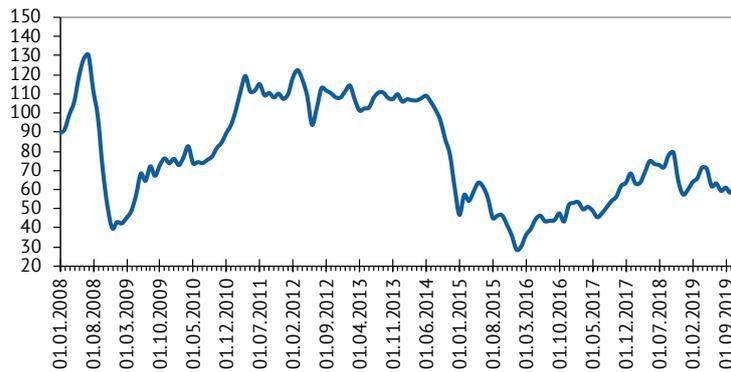


Fig. 1. Price of Urals in 2008–2019, USD/bbl.

Source: Rosstat.

Table 2

Crude oil production in the United States and OPEC countries in 2016–2019, b/d millions

	2016	2017	2018	2019 Q1	2019 Q2	2019 Q3	2019*
USA	8.86	9.35	10.99	11.81	12.10	12.23	12.25
OPEC countries, total	32.68	32.68	31.96	30.47	30.00	29.20	29.81
Saudi Arabia	10.42	10.09	10.38	10.00	9.92	9.38	
Iraq	4.43	4.44	4.60	4.75	4.70	4.70	
Iran	3.57	3.82	3.52	2.63	2.33	2.10	
Venezuela	2.18	1.92	1.43	1.05	0.79	0.73	

\* estimate.

Source: US EIA.

Against the backdrop of growing supply by the countries which are not part of the agreement in December 2019 OPEC+ countries **decided on additional cut of crude oil output by another 503 b/d/1k from January 1, 2020.** At the same time, OPEC members must additionally decrease the output by 372 b/d/1k, and other countries part of the agreement by 131 b/d/1k. Amid this reduction effective through Q1 2020 total production cut by

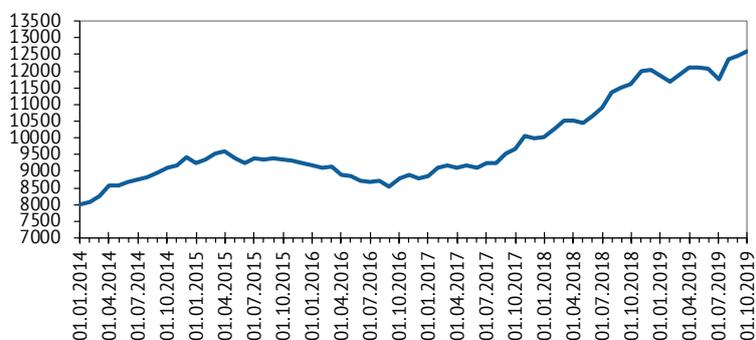


Fig. 2. Oil production in U.S. in 2014–2019, b/d/1k

Source: US EIA.

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OPEC+ members compared to October 2018 will hit 1.7 mn b/d.

Saudi Arabia accounts for the highest crude oil reduction cut: under existing commitments in the volume of 322 b/d/1k, it must reduce production by additional 167 b/d/1k. Moreover, Saudi Arabia announced intention to cut its production by another 400 b/d/1k. As a result, **total production cut to OPEC+ should hit 2.1 mn b/d.**

In compliance with the December agreement, Russia must reduce its production by another 70 b/d/1k. As a result, taking its current commitments in the volume of 228 b/d/1k **total production cut by Russia should hit 298 b/d/1k.** However, by the insistence of the Russian Federation from 2020 onwards the Russian quota will not include gas condensate. This fact will allow Russia to increase production of gas condensate which output has been growing recently.

Against the backdrop of continuing crude oil output growth in the U.S. as well as in several other countries, implementation of the December agreement should stabilize the oil market and maintain prices. Leading institutions recently forecast that in 2020 oil prices will vary within a range of \$57–63 per barrel. For example, according to the U.S. Energy Information Administration, **Brent crude oil is expected to be at an average of \$60.5 per barrel, or will decline by around 5% against 2019.**

However, there are risks of more significant price slide. This can occur in case of weak world economic growth, production growth in countries outside of OPEC+ agreement, as well as due to easing policy of production cut by OPEC+ member after March 2020 or due to incomplete fulfillment of their commitments. ▀

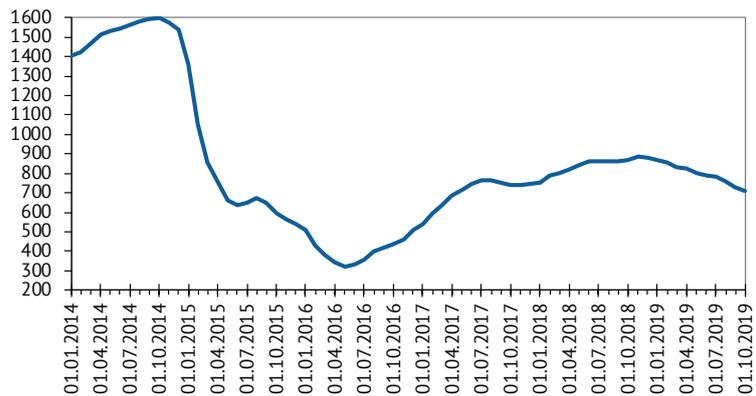


Fig. 3. Number of producing oil rigs in the United States in 2014–2019

Source: Baker Hughes.

### 3. MOSCOW-KAZAN: HOW TRANSPORT PROJECTS MODIFY THE ECONOMIC GEOGRAPHY

T. Mikhailova

*Regional countable models represent a traditional method of evaluating the long-term economic effects of transport infrastructure projects. The countable model of economic geography for municipal administrations of the Russian Federation developed by the experts of the Institute of Sectoral Markets and Infrastructure (ISMI), RANEPA was used for evaluating the effects of construction the planned Moscow-Kazan highway. The model demonstrates that the project will stimulate both growth of average wages and influx of population not only directly to the areas where the motorway is going to be built, but in a number of other territories of the Volga Region.*

The economic benefit from investing into the transport infrastructure is made up of numerous components. First, there are **direct and indirect effects of modernization of transportation routes**: users of the transport infrastructure save time and money; the transport infrastructure makes access easier for local producers and local residents to markets and jobs, respectively. Second, in the period of economic downturn **an effect of the business activity multiplier** is feasible: transport projects are becoming an instrument of the stimulation policy.

It is quite easy to evaluate the effects of transport projects, that is, the extent of saving which infrastructure users will receive. For example, direct effects of time and money saving from new road depend on technical parameters thereof, that is, the speed and traffic capacity. The estimation of indirect effects is a more complicated task.

For the purpose of forecasting changes in the spatial distribution of economic activities upon the implementation of transport projects, regional countable economic models are developed. With taking into account the input data: the parameters of administrative areas (regions and municipalities), their economic indicators, geography, as well as topology and the characteristics of the transport network, such models are used for predicting changes in demand for labor, business activities and households' revenues and migration, that is, they help find an "economic equilibrium", which is established in new conditions when the transport project has been completed. Then, comparing this new equilibrium with the current one, it is feasible to estimate the contribution of the planned project to the economic development of the territories.

The research done by experts of the ISMI, RANEPA<sup>1</sup> deals with development of such a countable model. **The baseline version of the model for RF local governments** was developed and the **calculation of effects of the planned new Moscow-Kazan highway** was carried out as a test case. The model makes it feasible to estimate changes in households' economic activities and the average wage as a result of building of the road.

1 T.N. Mikhailova and others (2019) "The Upgrading of Regional Countable Models for the Economy of the Russian Federation", the RANEPA Report.

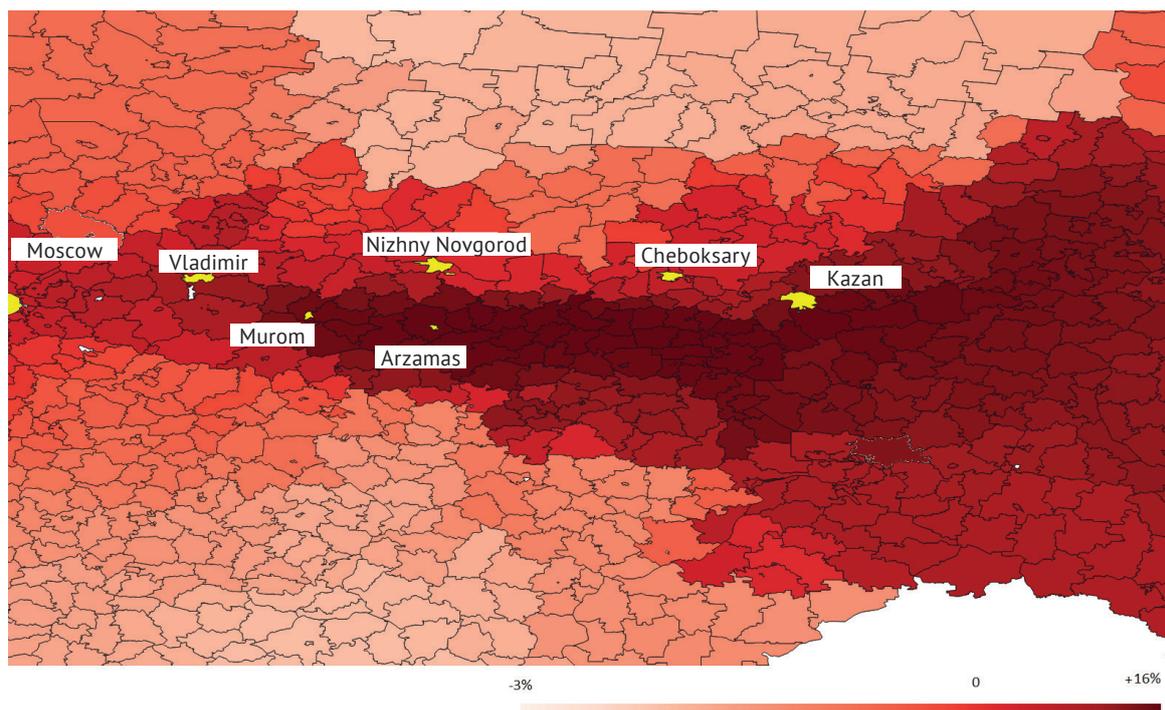


Fig. 1. The effects of building the Moscow-Kazan highway, the forecast of growth in the number of the population of municipal districts

The ISMI model is based on the works by T. Allen and C. Arkolakis in respect of US districts<sup>1</sup>. The theoretical foundation of the work is the model of the “new” economic geography where the territory of the country consists of multiple administrative units, that is, regions each of which produces a unique type of goods. Consumers prefer a diversified basket of goods and ultimate consumer prices depend on the costs of transportation of goods. For producers, it is advantageous to be situated closer to large markets. The model takes into account agglomerative effects: manufacturing is more effective in regions with a high density of the population, but at the same time, the high density of the population is a factor behind the growing cost of living. For example, all other things being equal, residents of Moscow make more money and have higher labor efficiency, but at the same time they have to put up with high direct and indirect costs of living in a large city.

In the course of evaluating the model, the parameters of each municipality are determined: the extent of labor efficiency and the extent of effectiveness of consumption. **The parameter of labor efficiency depends on** the factors specific to the municipality, but not accounted for directly in the model. They include, for example, raw materials, the quality of the agricultural land and the accumulated physical and human capital. **The parameter of effectiveness** depends on the factors which are not accounted for by the model, but influence the number of the population and attractiveness of the specific area for living. Such factors include the climate, the quality of the environment, historical and cultural aspects and birth rate differences. The result of the effect of these factors is calculated in the process of evaluation of the model on the basis of municipal

1 Allen, Treb and Costas Arkolakis, “Trade and the Topography of the Spatial Economy”. The Quarterly Journal of Economics 129.3 (2014): 1085-1140 and “The Welfare Effects of Transportation Infrastructure Improvements”, NBER working paper (2019).

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data. With the parameters of all the municipalities being available, it is feasible by means of the model to predict how the country's economic geography is going to change in case of the modification of the transport network pattern.

The planned highway will go through the cities of Vladimir, Murom and Arzamas and 80 km south of Kazan. The new road will substantially **reduce the driving time to Moscow and other places of destination** for all the regions along the planned route. As a result, the migration flow to the areas close to the highway will take place (at the expense of municipalities situated far from the highway). Shown in *Fig. 1* is the forecast of growth in the number of the population in municipalities situated along the highway and far from it.

It is noteworthy that the highway will have a positive effect not only on areas which it will go through directly, but also on large territories situated east of Kazan: **the eastern part of the Republic of Tatarstan, the south of the Kirov Region, and the Republic of Udmurtia**. A weak, but positive effect is projected for **the areas of the Samara Region, the western regions of the Republic of Bashkortostan and the Orenburg Region**. Owing to the new highway, all these territories will reduce their transportation costs to Moscow and other markets of the central part of Russia; this factor will be contributing to **growth in efficiency of companies and equalization of the levels of wages**.

The developed model has its own disadvantages: it does not take into account some important factors for the real economy. For example, the model suggests a high and unhindered mobility of the population. The forecasts of growth or the outflow of the population in municipal areas can be substantial. **For very attractive locations close to the planned highway, the migration inflow of +16% of the current level of the population has been projected.**

In reality, migration processes are quite inertial, so, projected changes will take years or even decades. The migration potential is realized slowly; migration is fraught with costs and governed by the gravity law: its rate of intensity decreases with the distance between the regions of outflow and inflow of migration. The actual forecast is the long-term ultimate level which is achieved with development of the territories adjacent to the new highway. But even if in the short-term horizon the estimates may happen to be modest the model vividly shows that transport projects affect the interest of large territories and regions.

Another important factor which has not been taken into account in the estimates so far is the rate of utilization of the new transport infrastructure. The Moscow-Kazan highway is planned to be a toll road, so the efficiency of its utilization will depend much on the sum of the road toll. 

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